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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER DOTE, JANIS L	
			ART UNIT 1756	PAPER NUMBER

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,150

Applicant(s)

TOMITA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-13 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-13 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/16/06, 3/22/06</u> | 6) <input type="checkbox"/> Other: _____ |

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1. The examiner acknowledges the amendments to claims 1, 11, 12, and 17-19 set forth in the amendment filed on Jun. 19, 2006. Claims 1-6, 10-13, and 16-20 are pending.

2. The examiner has considered the copending applications listed on the "List of related cases" filed in the Information Disclosure Statements filed on Feb. 16, 2006, and Mar. 22, 2006.

3. The rejection of claims 1-6, 10-13, 16, and 18-20 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Jan. 18, 2006, paragraph 5, has been withdrawn in response to the amendments to claims 1 and 11 filed on Jun. 19, 2006.

The rejection of claims 12 and 19 under 35 U.S.C. 102(e) over US 2004/0142265 A1 (Tomita), as evidenced by the other cited references, set forth in the office action mailed on Jan. 18, 2006, paragraph 8, has been withdrawn in response to the amendments to claims 12 and 19 filed on Jun. 19, 2006. Applicants have perfected their claim to foreign priority for the subject matter recited in instant claims 12 and 19. Antecedent basis for the amendment to claim 19 is found in the certified English-language translation of the priority document Japanese Patent Application No. JP2002-347478, filed on May 31,

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2005. The disclosure of the priority document is incorporated by reference at page 73, lines 1-4, of the instant specification. The certified translation provides antecedent basis as required under 35 U.S.C. 112, first paragraph, for the subject matter recited in instant claims 12 and 19.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In amended claims 1 and 11, the recitation "unmodified polyester (ii) has a peak molecular weight of from 1000 to 30000" lacks antecedent basis in the instant specification. The examiner notes that the peak molecular weight recited in instant claims 1 and 11 has antecedent basis in the originally filed specification at page 10, lines 16-18, which states that the "unmodified polyester (ii) preferably has a peak molecular weight of from 1000 to 30000." Also see, for example, the disclosure in example 1 at page 55, lines 16-17, of the originally filed specification.

However, the amendment to the paragraph beginning at page 10, line 16, of the specification, filed on May 31, 2005, amended the paragraph to state that "the unmodified

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polyester (ii) preferably has a peak weight average molecular weight of from 1000 to 30000" (emphasis added). In addition, the originally filed specification at page 28, lines 8-9, also states that the unmodified polyester (ii) has a peak weight average molecular weight of from 1000 to 30000. Applicants have not indicated where in the instant specification there is an express statement that the term "peak molecular weight" is another name for "peak weight average molecular weight."

Accordingly, the instant specification as of the mailing of this office action does not provide antecedent basis as set forth under 37 CFR 1.75(d)(1) for the unmodified polyester "peak molecular weight of from 1000 to 30000" now recited in instant claims 1 and 11.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-6, 10-13, and 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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(1) Instant claims 1 and 17 are indefinite in the phrase "wherein the aqueous liquid comprises: a binder resin . . . and a colorant . . ." (emphasis added) because it is not clear what comprises the binder resin and the colorant, e.g., the aqueous liquid used to dispersed the toner composition liquid or the aqueous liquid comprising the dispersed toner composition liquid.

(2) Instant claim 12 is indefinite in the phrase "wherein said aqueous liquid comprises: a binder resin . . . and a colorant . . ." (emphasis added) because it is not clear what comprises the binder resin and the colorant, e.g., the aqueous liquid used to dispersed the toner composition liquid or the aqueous liquid comprising the dispersed toner composition liquid.

(3) Instant claim 17 is further indefinite in the phrase "process cartridge comprising: a dry toner . . ."

Instant claim 19 is indefinite in the phrase "an image forming apparatus, comprising: the developer according to Claim 13."

It is not clear what is the structural relationship between the process cartridge and the toner or what is the structural relationship between the apparatus and the developer. It is not clear how an apparatus comprises a developer or how a process

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cartridge comprises a toner. A developer and a toner are not structural elements of an apparatus or a process cartridge, such as a charging device, but are merely materials or articles that are worked upon by the apparatus or process cartridge. The claims do not recite any structural relationship between the apparatus and the developer or between the process cartridge and the toner. Thus, it is not clear what apparatus components are encompassed in the process cartridge or in the image forming apparatus recited in claims 17 and 19, respectively.

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 17 and 19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Instant claim 17 recites a "process cartridge comprising: a dry toner . . ." but fails to positively recite any structural elements of the process cartridge.

Instant claim 19 is indefinite in the phrase "an image forming apparatus, comprising: the developer according to

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Claim 13," but fails to positively recite any structural components of the apparatus.

A toner is not a structural component of an apparatus, but is merely a material worked upon by the apparatus.

Thus, the claims are not proper apparatus claims under 35 U.S.C. 101.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

(1) Instant claim 17 recites a "process cartridge comprising: a dry toner prepared by a method . . ."

The originally filed specification does not provide an adequate written description of said process cartridge. The originally filed specification at page 11, lines 16-22, describes "a process cartridge including a photoreceptor and at least one of a charger configured to charge the photoreceptor, a developing device configured to develop a latent electrostatic image on the photoreceptor with the dry toner and a cleaning device configured to remove a residual toner on the photoreceptor." Also see originally filed claim 17, which recites "[a] process cartridge comprising: a photoreceptor; at least one of a charger configured to charge the photoreceptor; a developing device configured to develop a latent electrostatic image on the photoreceptor with the toner according to claim 1; and a cleaning device configured to remove a residual toner on the photoreceptor." The process cartridge recited instant claim 17 is broader than the originally disclosed or claimed process cartridge because it includes process cartridges that do not include a photoreceptor or any of the other disclosed components.

(2) Instant claim 18 recites an image forming method comprising "developing a latent electrostatic image on an image carrier with the developer according to Claim 13."

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The originally filed specification does not provide an adequate written description of said image forming method. The originally filed specification at page 11, line 23, to page 12, line 2, describes an image forming method comprising the "steps of developing a latent electrostatic latent image on an image carrier with the developer mentioned above to form a toner image on the image carrier; and transferring the toner image on a transfer medium optionally via an intermediate transfer medium." Also see originally filed claim 18, which recites "[a]n image forming method, comprising: developing a latent electrostatic latent image on an image carrier with the developer according to claim 13 to form a toner image on the image carrier; and transferring the toner image on a transfer medium optionally via an intermediate transfer medium." The image forming method recited in instant claim 18 is broader than the originally disclosed or claimed method because it includes methods that do not comprise the disclosed step of transferring the toner image to a transfer medium.

Applicants' arguments filed on Jun. 19, 2006, have been fully considered but they are not persuasive.

(1) Applicants assert that the process cartridge recited in instant claim 17 is supported by the disclosure at page 10, lines 16-17, of the certified English translation of the

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Japanese priority document, Japanese Patent Application No. JP2002-347478, filed on May 31, 2005. The disclosure of the priority document is incorporated by reference at page 73, lines 1-4, of the instant specification.

Applicants' assertion is not persuasive. The translation at page 10, lines 16-17, describes an "image forming apparatus, which is characterized in that the toner set forth in (11) is installed therein." This description differs from the description in the originally filed specification and claim 17, and applicants have not indicated where in the translation there is antecedent basis for a process cartridge as recited in instant claim 17.

(2) Applicants assert that the image forming method recited in instant claim 18 is supported by the disclosure at page 10, lines 14-15, of the certified English translation of the Japanese priority document.

Applicants' assertion is not persuasive. The translation at page 10, lines 14-15, describes an "image forming method, which is characterized by including the step of using the developer set forth in (11)." There is no description of "developing a latent electrostatic image on an image carrier" as recited in instant claim 18. Applicants have not indicated

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where in the translation there is antecedent basis for an image forming method as recited in instant claim 18.

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0142265 A1 (Tomita), as evidenced by US 6,935,520 B2 (Bando).

Tomita discloses a toner comprising a binder resin comprising a urea-modified polyester resin and an unmodified polyester resin - low molecular weight polyester 2, an ester wax as the releasing agent, and carbon black associated with the tradename REGAL 400R manufactured by Cabot Co. See paragraphs 0210-0215, 0217-0224, 0243-0245; and example 7 in paragraph 0246. The toner has a number average particle size (Dn) of 3.4 μm , a volume average particle size (Dv) of 4.0 μm , and a ratio, Dv/Dn, of 1.18. The toner has a spindle shape, which meets the shape limitations recited in instant claim 17. See paragraph 0246 and Table 1 at page 22, example 7. The values of Dv and the ratio Dv/Dn are within the ranges recited in instant claim 17. The weight ratio of the urea-modified polyester to low molecular weight unmodified polyester resin 2

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is about 0.4. The weight ratio was determined by the information provided in example 7 of Tomita. Tomita does not disclose that the carbon black associated with the tradename REGAL 400R has a pH as recited in instant claim 17. However, it is well known in the carbon black art that carbon black associated with the trademark REGAL 400R manufactured by Cabot Co. has a pH of 4.0, which is within the pH range of "not greater than 7" recited in the instant claims. See Bando, col. 36, line 62-63. Accordingly, carbon black associated with the tradename REGAL 400R meets the carbon black limitations recited in the instant claims.

The Tomita toner 7 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing a material solution comprising the ester wax and the low molecular weight unmodified polyester; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution of step (2), and additional low molecular weight unmodified polyester; (4) mixing the pigment-wax dispersion of step (3), a prepolymer comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the urea-modified polyester, and a ketimine compound, which has an active hydrogen, in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising resin

particles, while reacting the ketimine compound with the prepolymer to form toner particles; (6) removing the organic solvent from the dispersion of step (5); (7) washing the toner particles of step (6); and (8) drying the toner particles of step (7). Paragraphs 0213, 0217-0224, 0240, and 0244-0246. The Tomita process steps meet the product-by process limitations recited in instant claim 17.

Tomita further discloses an image forming apparatus that comprises a process cartridge, which meets the process cartridge recited instant claim 17. The Tomita apparatus comprises a process cartridge **10**, which comprise a photoreceptor **11**, a charger **12**, a developing unit **13**, and a cleaning device **14**. See Fig. 7 and paragraphs 0203-0204. Tomita further discloses that the developing unit comprises a toner container. Paragraph 0205, lines 1-3.

11. Claim 18 is rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0142265 A1 (Tomita), as evidenced by Bando and applicants' admission at page 28, lines 11-14, of the instant specification.

Tomita, as evidenced by Bando, discloses a toner as described in paragraph 10 above, which is incorporated herein by reference. As discussed in paragraph 10 above, the Tomita

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toner 7 has a volume average particle size (D_v) and a ratio, D_v/D_n , that meets the D_v and ratio D_v/D_n recited in instant claim 18. The toner has a spindle shape, which meets the shape limitations recited in instant claim 18. The weight ratio of the urea-modified polyester to low polyester resin 2 is about 0.4. The Tomita toner 7 is obtained by a process that meets the product-by process limitations recited in instant claim 18.

Tomita further discloses that toner can be used in a two-component developer comprising a carrier. Paragraphs 0150, 0151, and 0270. Tomita also discloses an imaging process that meets the step recited in instant claim 18. Paragraph 0032.

As discussed in paragraph 10 above, the Tomita toner 7 comprises a binder resin comprising a urea-modified polyester resin and an unmodified polyester resin - low molecular weight polyester 2. The Tomita low molecular weight unmodified polyester 2 has a T_g of 43°C , a peak molecular weight of 5,200, and a weight average molecular weight of 6,200. Paragraph 0243. The Tomita T_g meets the T_g range of 35 to 55°C recited in instant claim 18. The value of the Tomita peak molecular weight of 5,200 is within the numerical value of the peak molecular weight range of 1,000 to 30,000 recited in instant claim 18.

12. Applicant's arguments filed on Jun. 19, 2006, as applicable to the rejections over Tomita in paragraphs 10 and 11 above have been fully considered but they are not persuasive.

Applicants assert that claims 17 and 18 have been amended as supported by the disclosure at page 10, lines 16-17, and at page 10, lines 14-15, of the certified English translation of the Japanese priority document, Japanese Patent Application No. JP2002-347478, filed on May 31, 2005. The disclosure of the priority document is incorporated by reference at page 73, lines 1-4, of the instant specification.

Applicants' assertion is not persuasive. The translation of the priority document does not provide an adequate written description of the subject matter recited in the claim 17 and 18 as required under 35 U.S.C. 112, first paragraph, for the following reasons:

(1) The translation at page 10, lines 16-17, describes an "image forming apparatus, which is characterized in that the toner set forth in (11) is installed therein" (emphasis added). Applicants have not indicated where in the translation there is antecedent basis for a "process cartridge" as recited in instant claim 17.

(2) Similarly, the translation at page 10, lines 14-15,

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describes an "image forming method, which is characterized by including the step of using the developer set forth in (11)."

There is no description of "developing a latent electrostatic image on an image carrier" as recited in instant claim 18.

Applicants have not indicated where in the translation there is antecedent basis for an image forming method as recited in instant claim 18.

Accordingly, applicants have not perfected their claim of foreign priority under 35 U.S.C. 119 to Japanese patent application No. 2002-347478 for the subject matter recited in claims 17 and 18, and Tomita remains as prior art with respect to instant claims 17 and 18.

Thus, the rejections over Tomita in paragraphs 10 and 11 above stand.

13. The examiner notes that the rejections under the judicially created doctrine of obviousness-type double patenting of claim 17 over the claims of US Application 10/645,804 (Application'804), and of claim 17 over the claims of US Application 10/712,026 (Application'026), set forth in the office action mailed Jan. 18, 2006, paragraphs 10 and 11, respectively, are no longer provisional because Application'804 and Application'026 issued as US Patent No. 7,056,638 B1

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(Tomita'638) and US Patent No. 7,056,636 B2 (Tomita'636), respectively, on Jun. 6, 2006. Accordingly, claim 17 is rejected over the US patents as set forth infra.

14. Claim 17 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 24 of US Patent No. 7,056,638 B1 (Tomita'638) in view of Diamond, Handbook of Imaging Materials, pp. 168-169 (Diamond) and Japanese Patent 06-175403 (JP'403). See the USPTO translation of JP'403 for cites.

Reference claim 16, which depends from reference claim 1, recites a toner comprising toner particles comprising a binder resin, wherein the toner particles have a spindle form. The spindle form meets the toner form limitation recited in instant claim 17. Reference claim 14, which depends on reference claim 1, requires that the toner have a volume average particle size of 3.0 to 8.0 μm , which overlaps the range of 3 to 7 μm recited in instant claim 17, and a ratio of the volume average particle size (D_v) to the number average particle size (D_n) of 1.00 to 1.20. The ratio D_v/D_n of 1.00 to 1.20 is within the range of 1.00 to 1.25 recited in instant claim 17. Reference claim 8, which depends from reference claim 1, requires that the binder resin be a modified polyester, which meets the binder

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compositional limitations recited in instant claim 17.

Reference claim 9, which depends on reference claim 8, requires that the toner be made by steps that meet the steps recited in instant claim 17 but for the presence of the particular carbon black recited in instant claim 17.

Reference claim 24 covers a process cartridge that meets the process cartridge recited in instant claim 17, but for the toner recited in instant claim 17. The image developer, i.e., developing device, recited in reference claim 24 comprises a toner, which is the same toner recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Tomita'638, to make and use a toner comprising the modified binder resin recited in reference claims 8 and 9, and to adjust, through routine experimentation, the D_v and D_n of the toner, such that the resultant toner has a D_v and a ratio D_v/D_n as recited in the instant claim. That person would have had a reasonable expectation of successfully obtaining a process cartridge that is capable of providing toned images in an electrophotographic process.

The claims of Tomita'638 do not recite that the toner comprises the colorant carbon black as recited in instant claim 17. However, the use of color coloring agents has long

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been well known in the art. Diamond discloses that the most common colorant for toners is carbon black. Page 168, line 16. A carbon black having a pH of not greater than 7 is well known in the toner prior art. JP'403 teaches a carbon black having an ultraviolet absorption of 0.03, a BET specific surface area of 126 m²/g, a DBP oil absorption of 100 ml/100g, and a pH of 3. See the translation, paragraph 0020. According to JP'403, when a toner comprises such a carbon black as the toner colorant, the toner has improved toner charge rise characteristics, and continuously provides images with stable image density with "no image smudging, e.g., blurring." The JP'403 carbon black prevents toner scattering in the printer or copying machine. Translation, paragraph 0037. JP'403 further teaches that the use of "acidic" carbon black is desirable to improve the toner charge characteristics. The "acidic" carbon black has improved compatibility with the toner resin. Translation, paragraph 0013.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Tomita'638 and the teachings in Diamond and JP'403, to use the JP'403 carbon black as the colorant in the toner rendered obvious over the subject matter recited in Tomita'638. That person would have had a reasonable expectation of successfully

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obtaining a process cartridge that continuously provide toner images with stable image density and with no image smudging or toner scattering.

15. Claim 17 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 and 23 of US Patent No. 7,056,636 B2 (Tomita'636) in view of JP'403. See the USPTO translation of JP'403 for cites.

Reference claim 8 of Tomita'636, which depends from reference claim 1, recites a toner comprising a binder resin comprising a modified polyester resin and a colorant. The binder resin meets the binder resin limitation recited in instant claim 17. Reference claim 14, which depends from reference claim 1, requires that the toner have a volume average particle size of 3.0 to 8.0 μm , which overlaps the range of 3 to 7 μm recited in instant claim 17, and a ratio of the volume average particle size (D_v) to the number average particle size (D_n) of 1.00 to 1.20. The ratio D_v/D_n of 1.00 to 1.20 is within the range of 1.00 to 1.25 recited in instant claim 17.

Reference claim 16, which depends from reference claim 1, requires that the toner have the shape of a spindle as recited in instant claim 17. Reference claims 9 and 10, which both depend from reference claim 8, which depends from reference

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claim 1, require that the modified polyester resin be made by process steps that meet the product-by-process limitations recited in instant claim 17, but for the presence of the particular carbon black recited in instant claim 17.

Reference claim 23 covers a process cartridge that meets the process cartridge recited in instant claim 17, but for the toner recited in instant claim 17. The developing device recited in reference claim 23 comprises a toner, which is the same toner recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Tomita'636, to make and use a toner made by the method recited in instant claims 9 and 10, and to adjust, through routine experimentation, the D_v , D_n , and shape of the toner such that the resultant toner has a D_v , a ratio D_v/D_n , and a spindle shape as recited in the instant claim. That person would have had a reasonable expectation of successfully obtaining a process cartridge that is capable of providing toned images in an electrophotographic process.

Tomita'636 does not recite that the colorant in the toner recited in reference claim 1 is a carbon black having a pH of not greater than 7 recited in instant claim 17.

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However, a carbon black having a pH of not greater than 7 is well known in the toner prior art. JP'403 teaches a carbon having a pH of 3. The discussion of JP'403 in paragraph 14 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Tomita'636 and the teachings of JP'403, to use the JP'403 carbon black as the colorant in toner rendered obvious over the subject matter recited in Tomita'636. That person would have had a reasonable expectation of successfully obtaining a process cartridge that continuously provide toner images with stable image density with no image smudging or toner scattering.

16. Claim 17 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, and 8-27 of copending Application 10/670,320 (Application'320) in view of JP'403 and US 5,430,526 (Ohkubo). See the USPTO translation of JP'403 for cites.

The examiner notes that according to USPTO records, a Notice of Allowability was mailed in Application'320 on Jun. 8, 2006.

Ohkubo discloses an electrophotographic process cartridge that meets the process cartridge recited in instant claim 17,

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but for the particular toner recited in instant claim 17. The Ohkubo process cartridge **10** shown in Figs. 1 and 2 comprises the photosensitive member **3**, a contact charger **4**, a developing device **5**, which comprises a container comprising a toner, and a cleaning unit **8**. Figs. 1 and 2; col. 2, lines 47-61; col. 3, lines 15-16; and col. 3, line 65, to col. 4, line 8.

Ohkubo does not exemplify the particular toner recited in the instant claim. However, Ohkubo does not limit the type of toner used.

Reference claim 13 of application'320, which depends from reference claim 1, recites a toner comprising a modified polyester resin, a second resin, and a colorant, wherein the toner has a spindle form. The spindle form meets the toner form limitation recited in instant claim 17. The toner is obtained by process steps that meet the steps recited in instant claim 17, but for the presence of the particular carbon black recited in instant claim 17. Reference claim 17, which depends from reference claim 1, requires that the toner have a volume average particle size ranging from 3 to 7 μm , which meets the particle size range recited in instant claim 17. Reference claim 18, which depends on reference claim 17, requires that the toner have a ratio of the volume average particle size (D_v) to

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the number average particle size of not greater than 1.25, which meets the ratio range recited in instant claim 17.

The claims of Application'320 do not recite that the colorant in the toner is a carbon black having a pH of not greater than 7 as recited in instant claim 17. However, a carbon black having a pH of not greater than 7 is well known in the toner prior art. JP'403 teaches a carbon black having a pH of 3. The discussion of JP'403 in paragraph 14 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'320, to use the JP'403 carbon black as the colorant in toner recited in Application'320, and to adjust, through routine experimentation, the Dv and Dn of the toner, such that the resultant toner has a Dv and a ratio Dv/Dn as recited in the instant claim. It would have also been obvious for that person to use the resultant toner in the process cartridge disclosed by Ohkubo. That person would have had a reasonable expectation of successfully obtaining a toner and a process cartridge that continuously provide toner images with stable image density with no image smudging or toner scattering.

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17. Claims 17 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 and 12-18 of copending Application No. 10/724,260 (Application'260) combined with JP'403 and Ohkubo. See the USPTO translation of JP'403 for cites. (Note that the recitation that claims 1-5, 8, 10, 11, 13, and 16 were rejected in header of the rejection set forth in the office action mailed on Jan. 18, 2006, paragraph 13, was a transcription error.)

The examiner notes that according to USPTO records, a Notice of Allowability was mailed in Application'260 on Jul. 20, 2006.

Ohkubo discloses an electrophotographic process cartridge that meets the process cartridge recited in instant claim 17. The discussion of Ohkubo in paragraph 16 above is incorporated herein by reference.

Ohkubo does not exemplify the particular toner recited in the instant claim. However, Ohkubo does not limit the type of toner used.

Reference claim 13 of application'260, which depends from reference claim 1, recites a toner comprising a first binder resin, a second binder resin, and a colorant, wherein the toner has a spindle form. The spindle form meets the toner form

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recited in instant claim 17. Reference claim 5, which depends from reference claim 1, requires that the second resin binder be a modified polyester resin, which meets the binder resin limitation recited in instant claim 17. Reference claim 6, which depends on reference claim 1, requires that the toner have a volume average particle size of 4 to 7 μm , which is within the particle size range of 3 to 7 μm recited in instant claim 17. Reference claim 7, which depends on reference claim 6, requires that the toner have a ratio of the volume average particle size (D_v) to the number average particle size of 1.00 to 1.20, which meets the ratio range recited in instant claim 17. Reference claim 18 recites a method of making the toner of reference claim 1 comprising the steps recited in instant claim 17, but for the presence of the carbon black recited in instant claim 17.

The claims of Application'260 do not recite that the colorant in the toner is a carbon black having a pH of not greater than 7 as recited in instant claim 17. However, a carbon black having a pH of not greater than 7 is well known in the toner prior art. JP'403 teaches a carbon black having a pH of 3. The discussion of JP'403 in paragraph 14 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'260 and the teachings in JP'403, to use the JP'403 carbon black as the colorant in toner recited in Application'260, the modified polyester resin recited in reference claim 5 as the second binder resin, and to adjust, through experimentation, the Dv and Dn of the toner, such that the resultant toner has a Dv and Dv/Dn as recited in the instant claim. It would have also been obvious for that person to use the resultant toner in the process cartridge disclosed by Ohkubo. That person would have had a reasonable expectation of successfully obtaining a toner and a process cartridge that continuously provide toner images with stable image density with no image smudging or toner scattering.

18. Applicants' arguments filed on Jun. 19, 2006, as applicable to the rejections in paragraphs 14-17 above, have been fully considered but they are not persuasive.

Applicants requested that the examiner withdraw "the provisional obvious double patenting rejections if it is the only issue remaining in one case and convert the provisional rejection in the other application to a double patenting rejection. MPEP 822.01."

However, the provisional obviousness double patenting rejections in paragraphs 16 and 17 are not the only rejections in the instant application. Furthermore, as noted in paragraphs 16 and 17, prosecution in the copending applications is closed, so an obviousness double patenting rejection cannot be made in those applications. In addition, the rejections in paragraphs 14 and 15 are no longer provisional rejections since the copending applications have matured into issued US patents. Moreover, applicants have not provided any arguments traversing the merits of the rejections set forth in paragraphs 14-17 above. Accordingly, the rejections in paragraphs 14-17 above stand.

19. Claims 17 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/733,247 (Application'247) in view of Diamond, Handbook of Imaging Materials, pp. 168-169 (Diamond) and JP'403. See the USPTO translation of JP'403 for cites.

The examiner notes that according to USPTO records, a Notice of Allowability was mailed in Application'247 on May 23, 2006.

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Reference claim 11, which depends from reference claim 1, recites a toner comprising toner particles comprising a binder resin containing a modified polyester, wherein the toner particles have a spindle form. The spindle form meets the toner form limitation recited in instant claim 17. The binder resin comprising the modified polyester resin meets the binder resin limitation recited in instant claim 17. Reference claim 1 requires that the toner be made by steps that meet the steps recited in instant claim 17 but for the presence of the particular carbon black recited in instant claim 17. Reference claim 8, which depends on reference claim 1, requires that the toner have a volume average particle size of 4.0 to 8.0 μm , which overlaps the range of 3 to 7 μm recited in instant claim 17. Reference claim 9, which depends from reference claim 1, requires that the toner have a ratio of the volume average particle size (D_v) to the number average particle size (D_n) of 1.10 to 1.25, which meets the range of 1.00 to 1.25 recited in instant claim 17.

Reference claim 18 covers a process cartridge that meets the process cartridge recited in instant claim 17 but for the toner. The toner recited in reference claim 18 is the same toner recited in reference claim 1.

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It would have been obvious for a person having ordinary skill in the art, in view of the subject matter claimed in Application'247, to adjust, through routine experimentation, the Dv and Dn of the toner recited in reference claim 11, such that the resultant toner has a Dv and a ratio Dv/Dn as recited in the instant claim. That person would have had a reasonable expectation of successfully obtaining a process cartridge that is capable of providing toned images in an electrophotographic process.

The claims of Application'247 do not recite that the toner comprises the colorant carbon black as recited in instant claim 17. However, the use of color coloring agents has long been well known in the art. Diamond discloses that the most common colorant for toners is carbon black. Page 168, line 16. A carbon black having a pH of not greater than 7 is well known in the toner prior art. JP'403 teaches a carbon black having a pH of 3. The discussion of JP'403 in paragraph 14 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'247 and the teachings in Diamond and JP'403, to use the JP'403 carbon black as the colorant in the toner rendered obvious over the subject matter recited in Application'247.

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That person would have had a reasonable expectation of successfully obtaining a process cartridge that continuously provide toner images with stable image density and with no image smudging or toner scattering.

20. Claims 1-6, 10-13, 16, and 20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JLD
Aug. 22, 2006

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